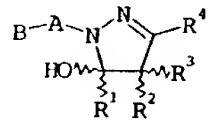
CLEAN COPY OF THE CLAIMS AS FILED

1. A method for controlling harmful fungi, which comprises treating the fungi or materials, plants, soil or seeds to be protected against fungal attack with an effective amount of a compound of formula I



I

where:

B is phenyl, naphthyl,

5-membered hetaryl, containing one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom or

6-membered hetaryl containing one to four nitrogen atoms; where the cyclic groups may carry one to four radicals R^a

R^a is halogen, cyano, nitro, hydroxyl, amino, carboxyl, aminocarbonyl, alkyl, haloalkyl, alkenyl, haloalkenyl, alkenyloxy, haloalkenyloxy, alkynyl, haloalkynyl, alkynyloxy, haloalkynyloxy, alkoxy, haloalkoxy, alkylthio, haloalkylthio, alkylamino, dialkylamino, alkylcarbonyl, alkoxycarbonyl, alkylcarbonyloxy, alkylaminocarbonyl, dialkylaminocarbonyl, alkylcarbonylamino , alkoxycaronylamino, alkylcarbonyl-N-alkylamino or alkoxycarbonyl-N-alkylamino, where the alkyl groups in these radicals contain 1 to 6 carbon atoms and the alkenyl or alkynyl groups mentioned in these radicals contain 2 to 8 carbon atoms;

cycloalkyl, cycloalkoxy, cycloalkylthio, cycloalkylamino, cycloalkyl-N-alkylamino, heterocyclyl, heterocycyloxy, heterocyclylthio, heterocyclylamino or heterocyclyl-N-alkylamino, where the cyclic systems contain 3 to 6 ring members and the alkyl groups in these radicals contain 1 to 6 carbon atoms; unsubstituted or R^b-substituted phenyl, phenyloxy, phenylthio, phenylamino, phenyl-N-alkylamino, phenylalkoxy, phenylalkylthio, phenylalkylamino, phenylalkyl-N-alkylamino, hetaryl, hetaryloxy, hetarylthio, hetarylamino, hetaryl-N-alkylamino, hetarylalkoxy, hetarylalkylthio, hetarylalkylamino and hetarylalkyl-N-alkylamino, where the hetaryl radicals contain 5 or 6 ring members and the alkyl groups in these radicals contain 1 to 6 carbon atoms, where

R^b is halogen, cyano, nitro, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_1-C_4-alkylamino, di-C_1-C_4-alkylamino or C_1-C_4 -alkyl thio ;

and/or one or two of the following radicals

- formyl,
- CR^{iii}=NOR^{iv} where R^{iii} is hydrogen, alkyl, cycloalkyl or phenyl and R^{iv} is alkyl, alkenyl, haloalkenyl, alkynyl or phenylalkyl (where the alkyl groups mentioned contain 1 to 6 carbon atom and the cycloalkyl groups, alkenyl groups and alkynyl groups mentioned contain 3 to 8 carbon atoms),
- NR^v-CO-D-R^{vi} where R^v is hydrogen, hydroxyl, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy, C_2-C_6-alkenyloxy, C_2-C_6-alkynyloxy, C_1-C_6-

alkoxy-C_1-C_6-alkyl, C_1-C_6-alkoxy-C_1-C_6-alkoxy or C_1-C_6-alkoxycarbonyl, R^{vi} is hydrogen, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_3-C_6-cycloalkyl, C_3-C_6-cycloalkenyl, phenyl, phenyl-C_1-C_6-alkyl, hetaryl or hetaryl-C_1-C_6-alkyl and D is a direct bond, oxygen or nitrogen, where the nitrogen may carry one of the groups mentioned under R^{vi},

and/or where two adjacent carbon atoms of the cyclic systems may carry a C_3-C_5-alkylene, C_3-C_5-alkenylene, oxy-C_2-C_4-alkylene, oxy-C_1-C_3-alkyleneoxy, oxy-C_2-C_4-alkenylene, oxy-C_2-C_4-alkenyleneoxy or butadienediyl group, where these bridges for their part may be partially or fully halogenated and/or may carry one to three of the following radicals:

- C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy and C_1-C_4-alkylthio;

A is C=O, C=S or SO_2;

R^1 is C_2-C_{10}-alkyl, C_1-C_{10}-haloalkyl, C_3-C_{10}-alkenyl, C_3-C_{10}-haloalkenyl, C_3-C_{10}-alkynyl or C_3-C_{10}-haloalkynyl, C_3-C_{10}-cycloalkyl, C_3-C_{10}-cycloalkenyl C_3-C_{10}-cycloalkynyl, or

phenyl or naphthyl,

5- or 6-membered heterocyclyl, containing, in addition to carbon ring members, one to three nitrogen atoms and/or one oxygen or sulfur atom or one or two oxygen and/or sulfur atoms or

5-membered hetaryl, containing one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom or

6-membered hetaryl, containing one to four nitrogen atoms;

where the cyclic groups may carry one to four radicals R^a;

R^2 is hydrogen;

R^3 is hydrogen, nitro, cyano, $N(R')_2$, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_2-C_4-alkenyl, C_2-C_4-haloalkenyl, C_2-C_4-alkynyl or C_2-C_4-haloalkynyl, where

R' independently of one another are hydrogen or C_1-C_4-alkyl;

or R^2 and R^3 together are a group

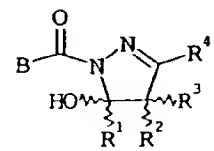
=0, =S or =N-O-R^5, where

R^5 is hydrogen, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_3-C_6-alkenyl, C_3-C_6-haloalkenyl, C_3-C_6-alkynyl or C_3-C_6-haloalkynyl;

R^4 is hydrogen, halogen, nitro, cyano, $N(R')_2$, C_1-C_4-alkyl, C_1-C_4-haloalkyl, COOR', hetaryl or heterocyclyl;

for controlling harmful fungi].

2. A 5-hydroxypyrazoline of the formula IA



IA

in which in case a:

R^3 is nitro, cyano, $N(R')_2$, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_2-C_4-alkenyl, C_2-C_4-haloalkenyl, C_2-C_4-alkynyl or C_2-C_4-haloalkynyl;

or R^2 and R^3 together are a group

=0, =S or =N-O-R^5,

R^4 is hydrogen, halogen, nitro, cyano, $N(R')_2$, C_1-C_4-alkyl, C_1-C_4-haloalkyl or heterocyclyl;

and B, R^1 and R^2 are each as defined in claim 1, or

in case b:

B is naphthyl, heterocyclyl, hetaryl or substituted phenyl, where the cyclic groups can be substituted by R^a, and

R^3 is hydrogen,

R^4 is hydrogen, halogen, nitro, cyano, $N(R')_2$, C_1-C_4-alkyl, C_1-C_4-haloalkyl or heterocyclyl;

and R^1 and R^2 are each as defined in claim 1;

where R^4 is not methyl if R^1 is tert-butyl or phenyl and the group B is phenyl which is substituted by 3-bromo, 4-halo, 4-methyl, 4-methoxy, 4-nitro, 4-dimethylamino or 4-fluoro-3-methyl, and

where R^4 is not methyl or CF_3 if R^1 is CF_3, C_3F_7, C_6F_{13}, C_8F_{17}, or tert-butyl R^2 and R^3 are hydrogen and the group B is phenyl which is substituted by 4-bromo, 4-methyl, 4-methoxy or 4-nitro, and

where R^4 is not thienyl if R^1 is phenyl which is unsubstituted or substituted by 4-chloro, 4-methyl or 4-methoxy, R^2 and R^3 are hydrogen and B is chlorophenyl, and

where R^4 is not ethyl if both the group B and R^1 are 4-fluorophenyl, or

in case c:

B is unsubstituted phenyl,

R^1 is phenyl or naphthyl, heterocyclyl or hetaryl, where the cyclic groups can be substituted by R^a,

C_3-C_{10}-cycloalkyl, C_3-C_{10}-cycloalkenyl C_3-C_{10}-cycloalkyny

n-propyl, C_4-C_{10}-alkyl, $CHC1_2$, CH_2C1, $CC1_3$, CHF_2, CF_2H, CF_2C1, $CFC1_2$,

C_2-C_{10}-haloalkyl, C_3-C_{10}-alkenyl, C_3-C_{10}-haloalkenyl, C_3-C_{10}-alkynyl or C_3-C_{10}-haloalkynyl;

R^2 is hydrogen;

R^3 is hydrogen, nitro, cyano, amino, rnethylamino, dimethylamino, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_2-C_4-alkenyl, C_2-C_4-haloalkenyl, C_2-C_4-alkynyl or C_2-C_4-haloalkynyl,

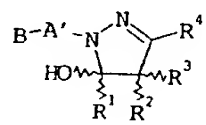
or R^2 and R^3 together are a group

=0, =S or =N-O-R^5, and

R^4 is hydrogen, halogen, nitro, cyano, $N(R')_2$, C_1-C_4-alkyl, C_1-C_4-haloalkyl or heterocyclyl;

where R^1 is not tert-butyl if R^4 is CF_2H and R^4 is not methyl if R^1 is phenyl.

3. A 5-hydroxypyrazoline of formula IB



IB

in which

A' is C=S or SO_2

B is unsubstituted phenyl,

R^1 is phenyl or naphthyl, heterocyclyl or hetaryl, where the cyclic groups can be substituted by R^a,

C_3-C_{10}-cycloalkyl, C_3-C_{10}-cycloalkenyl C_3-C_{10}-cycloalkyny

n-propyl, C_4-C_{10}-alkyl, $CHC1_2$, CH_2C1, $CC1_3$, CHF_2, CF_2H, CF_2C1, $CFC1_2$,

C_2-C_{10}-haloalkyl, C_3-C_{10}-alkenyl, C_3-C_{10}-haloalkenyl, C_3-C_{10}-alkynyl or C_3-C_{10}-haloalkynyl;

R^2 is hydrogen;

R^3 is hydrogen, nitro, cyano, amino, rnethylamino, dimethylamino, C_1-C_4-alkyl, C_1-C_4-haloalkyl, C_1-C_4-alkoxy, C_1-C_4-haloalkoxy, C_2-C_4-alkenyl, C_2-C_4-haloalkenyl, C_2-C_4-alkynyl or C_2-C_4-haloalkynyl,

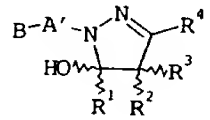
or R^2 and R^3 together are a group

=0, =S or =N-O-R^5, and

R^4 is hydrogen, halogen, nitro, cyano, $N(R')_2$, C_1-C_4-alkyl, C_1-C_4-haloalkyl or heterocyclyl;

where R^1 is not tert-butyl if R^4 is CF_2H and R^4 is not methyl if R^1 is phenyl.

3. A 5-hydroxypyrazoline of formula IB



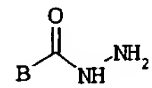
IB

in which

A' is C=S or SO_2

excluding compounds in which A' is C=S, R^1 is unsubstituted or p-CH_3-, p-Br- or -p-NO_2-substituted phenyl, R^4 is methyl, R^2 is hydrogen and R^3 is hydrogen, isopropyl or isobutyl and B is phenyl or 4-methoxyphenyl.

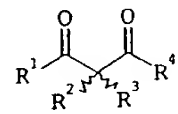
4. A process for preparing compounds of the formula IA as claimed in claim 2, which comprises reacting a hydrazine of formula II,



II

in which B is as defined in claim 2,

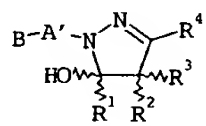
with a diketone of formula III,



III

in which the substituents are each as defined in claim 2.

5. A process for preparing compounds of formula IB



IB

in which A' is C=S,

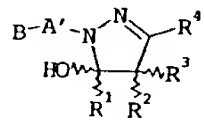
where B, R^1, R^2, R^3 and R^4 are as defined in claim 1,

excluding compounds in which R^1 is unsubstituted or p-CH_3-, p-Br- or -p-NO_2-substituted phenyl, R^4 is methyl, R^2 is hydrogen and R^3 is hydrogen, isopropyl or

isobutyl and B is phenyl or 4-methoxyphenyl,

which comprises reacting compounds of the formula I as set forth in claim 1, in which A is C=O, with Lawesson's reagent.

6. A process for preparing compounds of formula IB

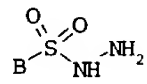


IB

in which A' is SO_2,

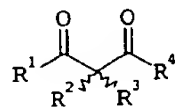
where B, R^1, R^2, R^3 and R^4 are as defined in claim 1,

which comprises reacting sulfohydrazines of the formula IV,



IV

in which B is as defined in claim 1 with diketones of the formula III,



III

in which the substituents are each as defined in claim 1.

8. A composition which is suitable for controlling harmful fungi, comprising a solid or liquid carrier and a compound of the formula I as set forth in claim 1.